UNIVERSITY EXAMINATIONS

UNIVERSITEITSEKSAMENS

UNISA university of south africa

INF3705

May/June 2018

Advanced Systems Development

Duration 2 Hours

100 Marks

EXAMINERS

FIRST	PROF M LOOCK
SECOND	PROF A COLEMAN
EXTERNAL	PROF HS VENTER

Closed book examination

This paper consists of 3 pages

INSTRUCTIONS

1 All answers must be written in the answer book provided
2 Number your answers and label your rough work clearly
3 The mark for each question is given next to the question
4 Marks are awarded for part of an answer, so do whatever you are able to in each question

GOOD LUCK!

Question 1 **15 marks**

Software engineering is not only concerned with issues like system heterogeneity, business and social change, trust, and security, but also with ethical issues affecting the domain Explain five ethical issues that have an impact on software engineering

Question 2 **08 marks**

There are many different software processes but they all have four fundamental software engineering activities Discuss four software engineering activities as applied in software processes

Question 3 **10 marks**

With the aid of a diagram, illustrate the stages of the waterfall process model

Question 4 **06 marks**

Outline the problems associated with the waterfall process model

Question 5 **09 marks**

Software requirement engineering is a process of establishing what services are required, and the constraints on the system's operation and development Evaluate three main activities in the software requirement engineering process

Question 6 **10 marks**

Members of your software development team wants to know the principles that agile methods are based on Explain five (5) principles of agile methods to the team members

Question 7 **06 marks**

Distinguish between developing user requirements and system requirements in the requirements engineering process

Question 8 **12 marks**

You are a software engineering manager and your team proposes that model-driven engineering should be used to develop a new system What factors should be evaluated when deciding whether or not to introduce model-driven engineering to software development?

Question 9 **08 marks**

As a system developer, your organisation requires you to make a decision on system architecture Explain to your organisation members what decisions have to be made about the system during the architectural design process

Question 10 **06 marks**

Development testing forms an integral part of system development Differentiate between unit testing, component testing and system testing as part of system development

Question 11 **10 marks**

Briefly describe three main types of software maintenance and the difficulties to distinguish between the three